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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,860	09/17/2003	Hisashi Tsukamoto	Q137-US3	8449

31815 7590 01/10/2008  
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EXAMINER
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LEE, CYNTHIA K

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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01/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/666,860	<b>Applicant(s)</b> TSUKAMOTO ET AL.	
	<b>Examiner</b> Cynthia Lee	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-28, 67 and 78-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-28, 67 and 78-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/14/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/14/2007 has been entered.

***Response to Amendment***

This Office Action is responsive to the amendment filed on 12/14/2007. The withdrawal from issue is acknowledged by the Examiner.

Claims 20-28,67,78,79,80-83 are pending. In light of the prior art submitted by the Applicant, the instant claims are rejected under new grounds of rejections.

Claims 20-28,67,78,79,80-83 are rejected for reasons stated herein below.

***Information Disclosure Statement***

The Information Disclosure Statement (IDS) filed 12/14/2007 has been placed in the application file and the information referred to therein has been considered.

***Claim Objections***

Claim 79 is objected to because of the following informalities:

There is a duplicate claim 79. Appropriate correction is required.

***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent

and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 20-28,67,78,79,80-83 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 69-73 and 76-79 of copending Application No. 10/665440. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 69-73 and 76-79 of the copending application contain all the limitations of claims of the instant application. Claims 20-28,67,78,79,80-83 of the instant application therefore are not patently distinct from the copending claim and as such is unpatentable for obvious-type double patenting.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 83 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "wherein the mandrel is positioned on the mandrel" is unclear. It has been interpreted as "wherein the mandrel is positioned on the pin".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 22-26, 67, 78-82 are rejected under 35 U.S.C. 102(b) as being anticipated by McHenry (US 3510353).

Refer to the Figure of McHenry. McHenry discloses a method of constructing an electric storage battery, comprising connecting a first end of a first electrode strip (17) to a pin (14); positioning a mandrel (tube 12 and the plastic tubing 13) on the pin; winding the first electrode strip together with a second electrode strip so as to form a spiral roll having at least a portion of the pin within the spiral roll, the spiral roll being formed after positioning the mandrel on the pin (2:31-36). The electrodes are rolled around the pin and the mandril (2:35-36).

Regarding claim 22, the plastic tubing 13 is in physical contact with the pin 14, and thus the mandrel is in electrical communication with the pin.

Regarding claim 24, McHenry discloses an end cap (16) is positioned on the pin (14), the end cap being configured to serve as a cap for a battery case, the end cap including an electrical insulator (15), the pin extending through the insulator.

Regarding claim 25, the end cap includes a conductive member (11) (2:11-15). The cap (11) connects the conductive member to a case (21) such that the conducting member is in electrical communication with the case and the pin extends into an interior of the case.

Regarding claim 26, a metal tube 12 is welded to the top and extends almost to the bottom of the receptacle (2:8-9). Since, the positive button 16 would normally be the terminal part of the wire 14 (2:29-30), the mandrel is necessarily welded to the pin.

The tube 12 is crimped at several positions along its length to effect the seal between the wire and the tube 12 (applicant's claim 67) (2:20-22).

Regarding claims 78 and 79, refer to the pin (14) and a mandrel (12 and 13) in the figure.

Regarding claim 81, a sleeve 13 is inserted in the metal tube and the positive electrode wire contact 14 fits within the plastic tubing (2:17-18).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over  
McHenry (US 3510353) as applied to claim 20, in view of Chang (US 4863815).

McHenry discloses all the elements of claim 20 and are incorporated herein.  
McHenry discloses that the pin extends through the insulator 15, but does not disclose that the pin extends through the case. Chang teaches an electrically conductive terminal pin extending through battery lid (see 6 in fig. 1). It would have been obvious to one of ordinary skill in the art to extend the terminal pin through the end cap of the battery of McHenry, as taught by Chang, for the benefit of extracting the current of the battery directly from the current collector instead of through the positive terminal.

Claims 27,80,83 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
McHenry (US 3510353) as applied to claim 20, in view of Klein (US 4476624)

McHenry discloses all the elements of claim 20 and are incorporated herein.  
McHenry discloses a pin and a mandrel but does not disclose that the mandrel includes a tube with a slot in the tube; and winding the first electrode strip together with the second electrode strip includes inserting a drive key into slot, and employing the drive key to rotate the mandrel and the pin (claim 27). Klein teaches a novel mandrel comprised of an elongated longitudinally deformed metal strip and a compression element adapted to fit within the deformity of the metal strip. Preferably the metal strip is of a uniform enclosing configuration such as of a "U" or "C" shaped cross section

and the compression element is preferably a solid plastic rod (applicant's claim 27 and 83). During the construction of the cell an electrode such as lithium with separator elements on both sides thereof is placed within the deformity with the compression element compressing and fixedly positioning the electrode into the deformity of the mandrel. The compression element is then locked into position such as by crimping the mandrel therearound to positively hold the electrode in place during subsequent winding (applicant's claim 67). With an anode metal electrode such as of lithium, a percut opening in the separator element adjacent the mandrel permits contact and cold welding between the anode metal and the mandrel during the compression step. Refer to 1:65-2:5). Klein teaches that It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the mandrel of McHenry, a u- or a c-shape, as taught by Klein (1:36-37), for the benefit of tightly gripping the electrode during the winding of the battery.

McHenry discloses that the pin is inserted into the mandrel, but does not disclose that the mandrel slides onto the pin (applicant's claim 80). Klein teaches that an inserting element 20 (or pin) is lowered (or inserted) into the mandrel 10 (2:55-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to lower the pin into the mandrel of McHenry, as taught by Klein, for the benefit of easily inserting the pin into the mandrel.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over McHenry (US 3510353) as applied to claim 20, in view of Nemoto (US 6387561).



McHenry discloses all the elements of claim 20 and are incorporated herein. McHenry does not disclose that the mandrel includes a channel and injecting an electrolyte through the channel. Nemoto teaches that the electrolyte is injected through the hole 7 of the core 6. It would have been obvious to one of ordinary skill in the art at the time the invention was made to inject the electrolyte of McHenry through a hole through the core of the battery, as taught by Nemoto, for the benefit of distributing the electrolyte from the center. Distributing the electrolyte from the center of the battery would allow for even distribution of the electrolyte in a cylindrical can.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ckl

Cynthia Lee

Patent Examiner



RAYMOND ALEJANDRO  
PRIMARY EXAMINER